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1 Attitudes and Knowledge Concerning Corneal Donation in a Population-Based
2 Sample of Urban Chinese Adults

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Abstract

Purpose To better understand knowledge and attitudes concerning corneal donation among Chinese adults.

Methods Randomly-selected residents in pre-determined age strata 20-60+ years completed home-based questionnaires in each of 12 randomly-chosen communities in Guangzhou, southern China.

Results Among 1,217 selected persons, 430 (35.3%) completed questionnaires (mean age 40.4 years, 57.9% female). Refusers were older (44.8 years, $p<0.001$), but gender makeup did not differ (52.2% female, $P=0.07$). Among participants, 175 (40.7%) were willing to donate their corneas (WTD). Differences between WTD and not WTD included: donation knowledge score (range 1-12) (WTD (Standard Deviation, SD) 6.91 ± 2.21 , not WTD 5.62 ± 2.43 , $p<0.001$); having discussed donation (WTD 26.3%, not WTD 8.63%, $p<0.001$); viewing donation as unpopular (WTD 88.0%, not WTD 96.5%, $p=0.001$); and feeling donation “damages the body” (WTD 15.4%, not WTD 25.7%, $p=0.013$). Associated significantly with WTD in multiple regression models were: higher knowledge score (OR=1.18, 95% CI 1.04, 1.32, $P=0.008$); not feeling donation “damages the body” (OR=1.91, 95% CI 1.07, 3.43, $p=0.030$); and willingness to discuss donation (OR=10.6, 95% CI 3.35, 33.9, $p<0.001$). WTD did not differ by age (>60 years: 22/51, 43.1%; ≤ 60 years: 153/379, 40.4%, $p=0.706$). Assuming all refusing the survey would not donate, 14.4%

55 (175/1217) were WTD for themselves, though only 7.1% (86/1217) would do so on
56 behalf of a family member if they did not know the deceased's preference.

57 **Conclusions** Interventions to increase knowledge and promote discussions about
58 donation, as well as policies allowing widespread expression of donation preference,
59 are needed in this setting.

Introduction

Corneal opacity is among the world's leading cause of blindness, ranking behind cataract, glaucoma and AMD, but ahead of diabetic retinopathy.¹ Over 1.5 million persons are blind from corneal opacity, accounting for some 4% of all global blindness.¹ In China, the impact of corneal blindness is even greater, accounting for 10-15% of all blindness and ranking among the top three causes.^{2, 3} The overall burden of corneal blindness is further increased when trachoma is included, though non-trachomatous causes are more likely to be treatable.⁴

It has been estimated that 80% of corneal blindness is preventable.⁴ Nonetheless, transplantation surgery is a highly-effective option for many persons suffering from corneal blindness, with overall long-term success rates as high as 80-90%.^{5, 6} While 50,000 corneal transplantations are performed annually in the United States,⁴ in China, with its far larger population and higher prevalence of blinding corneal disease, only about 5000 such surgeries are done each year.^{7, 8} The principal limitation is a lack of donor tissue,⁷ a requirement for all of the various types of corneal transplant surgery commonly performed today.⁴

Practical barriers to corneal donation have been described as including lower educational and economic levels, older age, lack of knowledge about the process and specific cultural beliefs inconsistent with donation.⁸⁻¹⁰ Previous studies on donation of other tissues besides cornea among persons of Chinese heritage on

have highlighted important barriers related to specific Chinese cultural beliefs: the body is traditionally thought of as a gift from the parents, which should not be damaged or altered, even after death.¹¹⁻¹³ Additionally, concerns about mis-use or sale of donated tissue, presumably reflecting a more widespread lack of trust in the medical system, has been identified as a barrier.^{11, 13, 14} Finally, under Chinese law,¹⁵ next-of-kin must agree to donation of any organ after death, even if the deceased has clearly expressed a wish to donate.¹⁶ Though the law nominally applies only to organ donation and not tissues such as the cornea, in actual fact, eye banks in China also follow this practice. This de facto veto power on the part of immediate relatives means that their attitudes play a very significant role in donation, and must be understood.

Though knowledge and attitudes among ethnically Chinese persons about organ and tissue donation, including corneas, have been studied,^{11, 12, 14, 17-21} few investigations¹¹ have taken a population approach in order to better understand the situation in the community at large, and none of these population studies have focused on corneal donation. Further, those few studies of corneal donation in China have not generally focused on knowledge and attitudes of potential donors. In the current manuscript, we describe knowledge and attitudes towards corneal donation for oneself and for close relatives in a population-based sample of urban Chinese residents in Guangzhou, southern China, selected to include a pre-determined number of respondents across various age strata. Our hypothesis was that younger

101 persons would be significantly more receptive to donation for themselves and family
102 members, and less influenced by traditional Chinese cultural attitudes.

Materials and Methods

This project was carried out as part of the preparation for SightLife, a US-based non-governmental organization focusing on corneal transplantation, to initiate programs in China. The protocol for this study was approved in full by the Ethics Committee at Zhongshan Ophthalmic Center, Sun Yat-sen University (Guangzhou, China). Written informed consent was given by all participants, and the principals of the Declaration of Helsinki were followed throughout.

Sampling and Enrollment Criteria

Among nine municipal districts (Yuexiu, Liwan, Tianhe, Baiyun, Luogang, Haizhu, Nansha, Panyu and Huangpu) comprising Guangzhou city, southern China, three were selected at random (Liwan, Tianhe and Panyu). Twelve communities were randomly selected from among a total of 484 in the selected three districts. A registry of residencies was obtained from the local government, including approximately 13,000 households. A household was selected at random as a starting point, and then every tenth household in the community was selected. In each household, one person was selected using a random number table, with enrollment continuing until ≥ 35 persons had been enrolled in the community, including a minimum of 5 persons in each age stratum 20-30, 31-40, 41-60 and > 60 years. The only exclusion criteria were physical or mental conditions precluding completing the questionnaire or giving informed consent.

Questionnaire

The questionnaire used in the current study was adapted from Lawlor et al,¹⁰ due to that study's focus on the impact of views on disfigurement and knowledge about the donation process on attitudes towards and acceptance of donation. The questionnaire used in the current study contained 36 items arranged in eight sections: (1) Demographic information, (2) Knowledge and awareness of corneal donation, (3) Social group influences, (4) Perceived benefits of donation, (5) Barriers to donation, (6) Cultural attitudes, (7) Willingness to donate and (8) Motivators toward donation.

The investigators were aware that questions concerning the death of a loved one are highly culturally sensitive in China, and that careful wording of the questionnaire would be needed to avoid very high refusal rates in the setting of a door-to-door survey. Two pilot studies were conducted to test the sensitivity of the questionnaire and adjust wording as needed before the full study began. In each pilot, ten residents of Guangzhou City aged 20 to 60 years were identified in clinics and offices at Zhongshan Ophthalmic Center. In the first, respondents were requested to answer an early draft of the questionnaire, with refusals to answer individual questions being recorded. In the second pilot, respondents were asked to grade the sensitivity of each question on a revised draft using a Likert scale (5 Very uncomfortable to answer to 1 Very comfortable to answer), without actually responding to questions.

On the basis of the two pilots, the most sensitive questions were eliminated altogether, sensitive wording was replaced (“die” with “pass away,” “cornea” with “material”, etc.) and the order of the questions was rearranged to place the most sensitive questions at the end.

Data collection

Trained, experienced investigators from a local government-affiliated survey firm made a total of three attempts to contact each household identified as above (Sampling and Enrollment) by knocking on the door. Age and gender were recorded for all persons refusing participation in the survey, and those agreeing to take part were requested to complete the survey on the spot. Respondents answered questions on their own, without discussing the contents with the interviewers, who answered questions as needed.

Statistical Methods

The total population of Guangzhou City at the end of 2011 (the most recent year available) according to household registers was 8,145,797.²² The sample size for the survey was calculated using the formula: $N = [(2 * Z^{\alpha/2} * P * (1-P)) / (MOE^2)] * Deff$, where α represented a Type I error of 0.05, $P=0.4$ was the estimated rate of willingness to donate, $MOE=0.06$ was the margin of error (maximum tolerated error) and $Deff = a$ design effect of 1.5, describing the loss of sampling efficiency due to use of a cluster sampling design. Two publically-available websites^{23, 24} were used to carry out the

calculations, and gave identical results: 384 valid respondents were required for the survey according to the above parameters. Adjusting for an expected non-response rate of 65% based on experience of the firm with similar door-to-door surveys, the expected number of persons needed to be contacted $384/0.35 = 1097$ persons.

The main outcome of the study was the willingness of the respondent to donate his/her own cornea. A secondary outcome was willingness to donate on behalf of a relative. Both questions required a definite yes or no answer. Age and sex were compared between those accepting and refusing participation in the survey. Basic demographic characteristics, knowledge and attitudes were compared between those who would and would not donate. Multiple logistic regression models were used to assess the relationship between the main outcome of willingness to donate and potential predictors. The motivators and statements selected by respondents from a prepared list as playing a role in their willingness or unwillingness to donate their own corneas or those of family members were ranked by the proportion of participants selecting them. Analyses were performed using Stata 12.0 (StataCorp, College Station, TX) using the survey features, which account for the effects of cluster sampling.

Results

A total of 1217 persons were randomly selected for investigation. Among these, 787 (64.7%) refused participation, and 430 (35.3%) accepted. Refusers had a mean age \pm SD of 44.8 ± 13.8 years, and 408 (52.2%) were female, while participants were significantly younger (40.4 ± 15.6 years, $P < 0.001$) but did not differ significantly by gender makeup. (Table 1) Among participants, 175 (40.7% of enrollees, 14.4% of total) indicated they would be willing to donate their own cornea (WTD). Their age, gender, religion, education, income, marriage status and role in parents' medical care did not differ significantly from those ($n=255$, 59.3%) who would not donate (Table 2).

Table 3 summarizes differences in knowledge and attitude between those who would and would not donate. Significant differences included: donation knowledge score (WTD mean knowledge score \pm SD 6.91 ± 2.21 on a scale of 1-12, not WTD 5.62 ± 2.43 , $p < 0.001$); having ever discussed donation (WTD 26.3%, not WTD 8.63%, $p < 0.001$); viewing donation as "unpopular" in society (WTD 88.0%, not WTD 96.5%, $p = 0.001$); feeling donation "damages the body" (WTD 15.4%, not WTD 25.7%, $p = 0.013$); being "unlikely" to discuss donation (WTD 67.4%, not WTD 98.0%, $p < 0.001$); and "unlikely" to permit donation of a relative's corneas (WTD 60.6%, not WTD 95.7%, $p < 0.001$). Those willing and unwilling to donate did not differ in the perception that donated material may be frequently misused in China (WTD 28.0%, not WTD 33.7%, $P = 0.206$).

In multiple logistic regression models of potential determinants of WTD (Table 4),

the following remained significant: having higher knowledge score (OR=1.18, 95% confidence interval [CI], 1.04-1.32, P=0.008), not feeling donation “damages the body” (OR=1.91, 95% CI, 1.07-3.43, p=0.030), willingness to discuss donation (OR=10.6, 95% CI, 3.35-33.9, P<0.001), and being likely to give consent for donation of a family member’s corneas (OR=10.3, 95% CI, 4.84-21.8; P<0.001) (Table 4).

Respondents were asked about willingness to consent for donation of a loved one’s corneas under two different circumstances: 48.4% (207/428) would consent if they knew that the deceased had wished it, while 20.2% (86/426) would do so if unaware of the wishes of the deceased (answers were not provided by two and four respondents under the first and second scenario respectively). Responses were not associated with the age or gender of the respondent under either scenario, and predictors of a positive response in regression models were similar to those for willingness to donate on one’s own behalf (data not shown).

The four most important reasons for not being willing to donate one’s cornea or consent to donation on behalf of a family member were: “I do not like thinking about death” (49% self, 33% relative); “I am concerned the materials might be bought and sold on the black market” (45% self, 38% relative); “I would just not feel comfortable about it” (40% self, 35% relative); and “I feel the body should be buried whole” (35% self, 58% relative). (Table 5) (Data on consent on behalf of a family member are not shown.) The most popular statements identified as playing a role in being willing to donate one’s own cornea included “two blind people can see again” (57.1%), “Allows

223 something positive to come out of the donor's life" (46.3%) and "Feel like I am part of
224 solving blindness problems in my community" (41.7%). The most popular specific
225 motivators for donation of one's own corneas included donor family support groups
226 (32.6%), thank you letters from recipients (30.9%) and thank you letters from the eye
227 bank (26.9%) (Table 5, on line only)

228

Discussion

While over 40% of participants in the current study indicated they would be willing to donate their own corneas, this result must be placed in the context of the high refusal rate (nearly two-thirds) among those selected on a population basis. Assuming that all those refusing to take part would also have refused to donate, the proportion willing to donate would still be 14.4% (175/1217). It must also be remembered, however, that under current Chinese law¹⁵ and eye banking practices, family members have a de facto veto power over donation of a deceased relative's organs and tissues. While respondents were even more willing (48.4% versus 40.7%) to authorize donation on behalf of a deceased relative than for themselves when they knew the deceased approved of donation, the proportion was less than half this (20.2%) when the preference of the deceased was not known. As only 16.1% of all respondents had ever had a conversation about donation, this makes it more likely that the wishes of a deceased potential donor would not be known by family members. Applying the conservative assumption that all refusing participation in this survey would have been unwilling to authorize donation on behalf of a loved one, and that none were certain of the preferences of the deceased, we may estimate that 7.1% (86/1217) of persons in this Chinese urban setting might agree to donation of a deceased relative's corneas.

These results have implications for Chinese policy-makers seeking to increase the amount of corneal tissue available for transplant. As outlined above, allowing

persons to make their own choice for donation prior to death could potentially double the rate of positive responses compared to a relative deciding on behalf of a decedent whose wishes s/he did not know. Effective and widespread programs allowing individuals to record their donation wishes, and policies requiring that those wishes be honored when clearly stated, would appear to be effective options to increase donation. In the United States for example, a desire to donate can be expressed at the time of registration for a driver's license in many states,²⁵ and similar policies exist in other countries as well,^{10, 26} though few with cultural beliefs about the sanctity of the body such as exist in China. In the United States;^{25, 27} and in many European countries,²⁸ organ donation can be authorized with the individual's own consent, without requiring that the family agree. Various countries in the European Union, Wales being the earliest,²⁸ have some form of presumed consent, also referred to as an "opt-out system," which has led in settings such as Spain to rates of cadaveric organ donation (33.6 per million inhabitants), and kidney and liver transplantation (50.6 and 24.2 per million respectively), which are among the highest in the world.^{29, 30}

Regarding other predictors of willingness to donate and their implications for program design, our hypothesis that younger respondents would be more willing to donate proved to be untrue for either self-donation or authorization on behalf of a relative. The association between donation and both greater knowledge about, and a willingness to discuss, the process suggests that interventions to increase donation

might focus on education and promoting family discussions. Results from the Barriers and Motivators sections of the study can also inform future programs: concern over misuse of tissue is a top-ranking concern with regard to both self-donation and that on behalf of relatives. Efforts to make the donation process highly transparent and eye banks fully accountable are needed, together with public education aimed at promoting these ideas. Motivators ranked highly by respondents, such as donor family support groups and thank you letters, may also be useful to increase donation.

In accord with other studies,¹¹ the current report underscores the fact that donation is a very sensitive topic in China. High proportions of respondents find thoughts or discussions about death and donation uncomfortable and unwelcome, while still subscribing to the idea that the body should remain intact in death. Nonetheless, if our calculations above are correct that one in fourteen persons in this setting might authorize donation on behalf of a relative, then programs which actively contact bereaved families to seek consent may be practical at sufficiently large hospitals. While such programs are common in the United States and Europe, donation in China generally depends on relatives to take the initiative. We have begun a pilot program to train donation coordinators at two hospitals in Guangdong Province for family outreach, and plan to test interventions based on findings of the current study using a randomized controlled design in these pilot projects.

The main strength of the current study is its population design involving community-residing persons over a wide age range, together with the relatively

292 detailed questionnaire. A principal weakness is the high refusal rate, despite
293 considerable effort to frame the questionnaire in an inoffensive way. While home
294 surveys may be prone to yield such high refusal rates, it has been suggested that the
295 impact on representativeness of the sample may not be large.³¹ Additional
296 weaknesses include the fact that participants were speculating about their response
297 in the event of the death of a loved one, rather than being interviewed after an actual
298 such occurrence. We hope to address this shortcoming in future work.

299 Despite these limitations, this is first population-based study of attitudes towards
300 corneal donation in China, and it provides useful information for project planners
301 seeking to start programs in that challenging setting.

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Table 1: Basic demographic information for those accepting and refusing participation in the survey

Characteristics	All (N = 1217)	Refuse participation (N = 787, 64.7%)	Accept participation (N = 430, 35.3%)	P-value comparing refusing vs. accepting participation*
Age, y, n (%)†				<0.001
20–30	352 (29.0)	200 (25.6)	152 (35.4)	
31–40	258 (21.3)	169 (21.6)	89 (20.7)	
41–50	274 (22.6)	196 (25.1)	78 (18.1)	
51–60	200 (16.5)	140 (17.9)	60 (14.0)	
>60	128 (10.6)	77 (9.85)	51 (11.9)	
Mean (SD)	43.2 (14.6)	44.8 (13.8)	40.4 (15.6)	
Sex, n (%)‡				
Female	657 (54.2)	408 (52.2)	249 (57.9)	0.070
Male	554 (45.8)	373 (47.8)	181 (42.1)	

* Taking the effects of cluster sampling into account, simple linear regression was used for age and logistic regression was used for sex to compare the difference between groups.

†: 5 (0.41%) persons who refused participation had missing data for age.

‡: 6 (0.49%) persons who refused participation had missing data for sex.

Table 2: Demographic information by willingness to donate

Characteristics	All (N=430)	Would donate (n = 175)	Would not donate (n = 255)	P-value‡
Age, y, n (%)				0.699
20–30	152 (35.3)	58 (33.1)	94 (36.9)	
31–40	89 (20.7)	41 (23.4)	48 (18.8)	
41–50	78 (18.1)	29 (16.6)	49 (19.2)	
51–60	60 (14.0)	25 (14.3)	35 (13.7)	
>60	51 (11.9)	22 (12.6)	29 (11.4)	
Mean (SD)	40.4 (15.6)	40.7(15.4)	40.1 (15.7)	
Sex, n (%)				0.597
Female	249 (57.9)	104 (59.4)	145 (56.9)	
Male	181 (42.1)	71 (40.6)	110 (43.1)	
Religion, n (%)				0.741
None	369 (85.8)	149 (85.1)	220 (86.3)	
Buddhist/Christian/Other	61 (14.2)	26 (14.9)	35 (13.7)	
Education, n (%)*				0.246
None/Elementary school	52 (12.1)	16 (9.14)	36 (14.2)	
Junior school	168 (39.2)	66 (37.7)	102 (40.2)	
High school	112 (26.1)	47 (26.9)	65 (25.6)	
College or above	97 (22.6)	46 (26.3)	51 (20.1)	
Income, RMB per month, n (%)†				0.149
< 2000	104 (24.5)	38 (21.8)	66 (26.4)	
2000-4000	197 (46.5)	75 (43.1)	122 (48.8)	
4001-6000	86 (20.3)	43 (24.7)	43 (17.2)	
>6000	37 (8.73)	18 (10.3)	19 (7.60)	
Marriage status, n (%)				0.482
Married and living with spouse	309 (71.9)	129 (73.7)	180 (70.6)	
Single	121 (28.1)	46 (26.3)	75 (29.4)	
Role in parents' medical care, n (%)§				
No living parents	73 (17.0)	34 (19.4)	39 (15.3)	0.262
Have living parents, takes an active role	122 (28.4)	45 (25.7)	77 (30.2)	0.311
Have living parents, but takes no role	212 (49.3)	86 (49.1)	126 (49.4)	0.956
Spouses' parents living, takes an active role	70 (16.3)	26 (14.9)	44 (17.3)	0.508
Spouses' parents living, takes no role	174 (40.5)	72 (41.1)	102 (40.0)	0.812

*: 1 (0.23%) person unwilling to donate group had missing education data.

†: 6 (1.40%) persons (1 willing and 5 unwilling to donate) had missing income data.

‡: Taking the effects of cluster sampling into account, simple linear regression was used for age, ordinal logistic regression was used for education and income, and logistic regression was used for all other variables in comparing the difference between groups.

§: Participants could select more than one choice, so the total numbers exceeded 430.

Table 3: Knowledge and attitudes among those who would and would not donate

Item	Would Donate (n=175)	Would not Donate (n=255)	P-value comparing would vs. would not donate*
Knowledge summary score, Mean (SD) †	6.91 (2.21)	5.62 (2.43)	<0.001
Ever had conversation about donation, n (%)			<0.001
Yes	46 (26.3)	22 (8.63)	
No	129 (73.7)	233 (91.4)	
Social and cultural attitudes, n (%)			
Corneal donation is generally popular in society			0.001
Not sure/disagree/strongly disagree	154 (88.0)	246 (96.5)	
Agree/strongly agree	21 (12.0)	9 (3.53)	
The body is a gift from the parents‡			0.476
Not sure/disagree/strongly disagree	15 (8.57)	27 (10.7)	
Agree/strongly agree	160 (91.4)	226 (89.3)	
Donation damages the body‡			0.013
Not sure/disagree/strongly disagree	148 (84.6)	188 (74.3)	
Agree/strongly agree	27 (15.4)	65 (25.7)	
Donated material may be frequently misused in China§			0.206
Not sure/disagree/strongly disagree	126 (72.0)	167 (66.3)	
Agree/strongly agree	49 (28.0)	85 (33.7)	
Attitudes towards discussion and proxy consent, n (%)			
Willing to discuss donation			<0.001
Not sure/disagree/strongly disagree	118 (67.4)	247 (98.0)	
Agree/strongly agree	57 (32.6)	5 (1.98)	
Likely to give consent to donate a loved one's cornea‡			<0.001
Not sure/disagree/strongly disagree	106 (60.6)	242 (95.7)	
Agree/strongly agree	69 (39.4)	11 (4.35)	

* Taking the effects of cluster sampling into account, simple linear regression was used for knowledge score and logistic regression was used for all other variables in comparing the difference between groups.

‡: 8 (1.86%) persons had missing data.

‡: 2 (0.46%) persons had missing data.

§: 3 (0.70%) persons had missing data.

Table 4: Multiple logistic regression model of potential determinants of willingness to donate one's own cornea, adjusting for effects of cluster sampling (Items significant at the $P < 0.05$ level are highlighted in bold) (N=419)*

Variable	OR (95% CI)	P-value
Age, per year	0.99 (0.98, 1.01)	0.487
Female sex	1.35 (0.84, 2.17)	0.217
Knowledge score, (range: 0-12)	1.18 (1.04, 1.32)	0.008
Ever had conversation about donation	1.16 (0.51, 2.63)	0.725
Considers corneal donation popular in society	1.57 (0.37, 6.72)	0.543
Not feeling donation "damages the body"	1.91 (1.07, 3.43)	0.030
Willing to discuss donation	10.6 (3.35, 33.9)	<0.001
Likelihood of giving consent to donate a loved one's cornea	10.3 (4.84, 21.8)	<0.001

OR: odds ratio CI: confidence interval

* Age, sex and variables with $P \leq 0.2$ in table 2 were included in the multiple regression model.

Table 5. Statements that play a role in not being willing to donate (Asked only of 255 persons not willing to donate their own corneas), and Statements and motivators that play a role in willingness to donate corneas (Asked only of 175 persons willing to donate their own corneas)

Characteristics	n	%
Statements that would play a role in your decision to not pledge to donate your corneas		(of 255)
I do not like thinking about death	125	49.0
I am concerned (corneal) materials are being bought and sold on the black market	114	44.7
I am not sure of the reasons, I would just not feel comfortable about it	102	40.0
The body should be buried whole	89	34.9
My vision is not good enough to donate	56	22.0
I don't feel I have enough information to agree to donation	43	16.9
I don't want to give up such an important part of my physical appearance	29	11.4
Corneal transplants are sight saving, but not life saving	13	5.10
Eyes are needed in the afterlife	9	3.53
Other reasons	9	3.53
It is against my religious beliefs	6	2.35
Statements that play a role in willingness to donate corneas		(of 175)
Two blind people will be able to see again/be cured	100	57.1
Corneal donation allows something positive to come out of the donor's life	81	46.3
I feel like I am part of solving public health/ blindness problems in my community	73	41.7
I would gain merit that might affect my position in the next life	61	34.9
I would feel good about myself because of having made this decision.	50	28.6
Because helping others is an important part of being a good person	39	22.3
It is important that material are made available for research into causes of blindness	32	18.3
I would feel good about making the decision to donate on behalf of a loved one	25	14.3
It helps families of the deceased grieve	19	10.9
Other reasons	3	1.71
Motivators that play a role in willingness to donate corneas		(of 175)
Donor family support group	57	32.6
Thank you letter from the recipient	54	30.9
Thank you letter from the eye bank	47	26.9
Donor family ceremony/ celebration	21	12.0
Government publicity and education	21	12.0
Providing monetary compensation	18	10.3
Payment of medical expenses	16	9.14
Knowing corneas are being used legally	11	6.29

Receiving documentation for being a donor	2	1.14
Other	2	1.14
